



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,318	07/14/2003	Sung-Kee Kim	5000-1-401	7298
33942	7590	07/27/2004	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			STULTZ, JESSICA T	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,318	Applicant(s) KIM ET AL. CA	
	Examiner Jessica T Stultz	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 1, 7, 13-15, and 17 are objected to because of the following informalities: Claims 1, 13, and 15 recite the limitation "the EML". There is insufficient antecedent basis for this limitation in the claim. Specifically, applicant has not positively claimed the modulator as an EML modulator prior to the reference to "the EML". For purposes of examination and based on what is disclosed in the specification and drawings, the assumed meaning is "the modulator". Claims 7, 14, and 17 are objected to because the parentheses surrounding the phrase "Electro-absorption modulator laser" create a lack of clarity because it is not clear if the phrase should be given patentable weight. It is suggested that the applicant remove the parentheses and refer to the modulator as either "EML" or "Electro-absorption modulator laser" consistently throughout the claims to overcome the lack of clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 6, 8-9, 13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier in view of Murakami et al.

Regarding claims 1, 8, and 15, Maier discloses an optical transmitter (Column 35, line 54-Column 36, line 40, wherein the optical transmitter is shown in Figures 6-7) comprising: a generator for providing electrical signals (Column 36, lines 4-65, wherein the mixer "17" is

Art Unit: 2873

driver by an input electric signal to modify the input optical signal, Figures 6-7); a modulator for providing optical signals in response to input electrical signals (Column 35, line 54-Column 36, line 40, wherein the modulator is “16” or optical mixer “17”, Figures 6-7); a first lens for focusing output of the modulator to prevent signal loss (Column 35, line 54-column 36, line 3, wherein the first lens is “10”, before the waveguide “1”, Figures 6-7); a second lens for focusing the output of the first lens into a core portion of an optical line (Column 35, line 54-column 36, line 3, wherein the second lens is “10”, after the waveguide “1”, Figures 6-7); and a filter at the output of the second lens (Column 36, lines 34-40, wherein the filter is “18”, Figures 6-7) , but does not specifically disclose that the filter is a band stop filter for removing the D.C. component from the output of the second lens. Murakami et al teaches of a system wherein signals are filtered specifically wherein a band stop filter is used to remove the D.C. component (Column 13, line 11-32, wherein the band stop filter “5” removes the dc component from the signal, Figure 20) for the purpose of removing unwanted frequency components and to convert the signals into control signals (Column 13, lines 11-32). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the system of Maier to further include a band stop filter for removing the D.C. component from the output of the second lens since Murakami et al teaches of a system wherein signals are filtered specifically wherein a band stop filter is used to remove the D.C. component for the purpose of removing unwanted frequency components and to convert the signals into control signals.

Regarding claim 2, 9, and 16, Maier and Murakami et al disclose and teach of an optical system as shown above and Maier further discloses an optical isolator coupled between the first lens and the second lens for preventing the reflected optical signals flowing back into the

Art Unit: 2873

modulator (Column 37, lines 27-45, wherein the optical isolator “24” eliminates transmissions of the radiation back into the modulator “16”, Figures 6-7).

Regarding claims 6 and 13, Maier and Murakami et al disclose and teach of an optical system as shown above and Maier further discloses that the filter is provided outside of the transmitter (Column 36, lines 34-40, wherein the filter “18” is provided outside the transmitter, Figures 6-7).

Claims 3, 5, 7, 10, 12, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier in view of Murakami et al and further in view of Kuo et al.

Regarding claims 3, 5, 7, 10, 12, 14, and 17, Maier and Murakami et al disclose and teach of an optical system as shown above, but do not specifically disclose that the filter is a fiber Bragg grating or an integrated filtering element or that the modulator is an EML. Kuo et al teaches of an optical system using a laser including a fiber Bragg grating or an integrated filter (Column 8, lines 54-59m wherein the filter “120” is a Bragg filter or an integrated filter, Figure 1) and an electro-absorption modulator (Column 8, lines 7-40, wherein the modulator “114” is an electro-absorption modulator, Figure 1) for the purpose of providing band stop filtering of the optical signal and to provide the desired level of modulation within the system (Column 8, lines 7-59). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the optical system of Maier and Murakami et al to include the filter as a fiber Bragg grating or an integrated filtering element and that the modulator is an EML since Kuo et al teaches of an optical system using a laser including a fiber Bragg grating or an integrated filter and an electro-absorption modulator for the purpose of providing band stop filtering of the optical signal and to provide the desired level of modulation within the system.

Art Unit: 2873

Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier in view of Murakami et al and further in view of Mizrahi.

Regarding claims 4 and 11, Maier and Murakami et al disclose and teach of an optical system as shown above, but do not specifically disclose that the filter is a tilted fiber grating. Mizrahi teaches of an optical system using tilted Bragg filters (Column 5, lines 18-34) for the purpose of causing the light reflected in the Bragg gratings to radiate out of the fiber (Column 6, lines 9-14). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the optical system of Maier and Murakami et al to further include a tilted fiber grating since Mizrahi teaches of an optical system using tilted Bragg filters for the purpose of causing the light reflected in the Bragg gratings to radiate out of the fiber.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mueller et al and Ionov are cited as being some similar structure to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2873

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jessica Stultz
Patent Examiner
AU 2873
July 22, 2004



JORDAN SCHWARTZ
PRIMARY EXAMINER